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10/773,746	02/06/2004	William F. Nordlin	913/40838/310	8619

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EXAMINER

HOWELL, DANIEL W

ART UNIT	PAPER NUMBER
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3722

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/773,746

Applicant(s)

NORDLIN, WILLIAM F.

Examiner

Daniel W. Howell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13, 16-19 and 21-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9, 10, 19, 32 and 33 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 21, 22, 24, 26, 28, 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1-24-06, 3-14-06</u> | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nuss et al (6623220) in view of Kanaan et al (5577743). Figures 1-3 of Nuss et al provide an excellent overview of the device. Adapter 18 has a hexagonal outer shape, an annular groove 86, and it is threaded at its front end 78 to hold a hole saw 12. Shank 20 has a hexagonal opening 26 to receive the adapter 18 and a radial hole to receive ball 32. Sleeve 34 is spring biased forward to cam ball 32 radially inward into groove 86 to hold the adapter in the shank. Pilot drill 14 is held in shank 20 through coupler 50. [It is noted that the examiner could also have instead used the PGPub or Japanese version of this document in order to have made a rejection under 35 USC 102(a), but the patented version has been used as it does not include the blurry photographs of the other two.] Nuss et al does not show an o-ring. Kanaan et al shows a shank/chuck 26 which connects to the drive spindle 46, a sleeve 20 which is moved to bias members 32 against a tool 16, and an o-ring 52 in an annular recess near the opening for keeping dust and contaminants out of the bore 14 (column 3, lines 35+). The elastic o-ring is inherently capable of damping vibrations. It is considered to have been obvious to have provided Nuss et al with an o-ring as shown by Kanaan et al in order to keep contaminants out of the shank 20.

3. Claims 16-18, 23, 25, 27, 29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nuss et al '220 in view of Japanese 2001-162422. Figures 1-3 of Nuss

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et al provide an excellent overview of the device. Adapter 18 has a hexagonal outer shape, an annular groove 86, and it is threaded at its front end 78 to hold a hole saw 12. Shank 20 has a hexagonal opening 26 to receive the adapter 18 and a radial hole to receive ball 32. Sleeve 34 is spring biased forward to cam ball 32 radially inward into groove 86 to hold the adapter in the shank. Pilot drill 14 is held in shank 20 through coupler 50. [It is noted that the examiner could also have instead used the PGPub or Japanese version of this document in order to have made a rejection under 35 USC 102(a), but the patented version has been used as it does not include the blurry photographs of the other two.] The adapter of Nuss et al does not show a connection with the hole saw consisting of the adapter having apertures for receipt of fasteners which extend through a backplate of a hole saw. Such a connection is common in the prior art. Figure 1 of Japanese '422 shows a flange 4A having holes for fasteners 5 which connect to the backplate 2a of a hole saw 2. It is considered to have been obvious to have provided the front portion of adapter 18 of Nuss et al with the connection taught by Japanese '422 in order to hold hole saws having other common connection systems.

4. Claims 1, 2, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese 2002-355712 in view of Kanaan et al. See figures 1-4 of Japanese '712. Hole saw 1 has a rear opening 4, and two-piece adapter 5, 7, is connected through hole 4. Rear piece 5 has indentations 10 for receiving balls 16 of shank 11. Note spring 19 which biases sleeve 17 to cam the balls 16 into the indentations 10. Set screw 24 holds a pilot drill 22. Japanese '712 lacks an o-ring. Kanaan et al shows a shank/chuck 26 which connects to the drive spindle 46, a sleeve 20 which is moved to bias members 32 against a tool 16, and an o-ring 52 in an annular recess near the opening for keeping dust and

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contaminants out of the bore 14 (column 3, lines 35+). The elastic o-ring is inherently capable of damping vibrations. It is considered to have been obvious to have provided Japanese '712 with an o-ring as shown by Kanaan et al in order to keep contaminants out of the shank 20.

5. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese '712 in view of Japanese '422. See figures 1-4 of Japanese '712. Hole saw 1 has a rear opening 4, and two-piece adapter 5, 7, is connected through hole 4. Rear piece 5 has indentations 10 for receiving balls 16 of shank 11. Note spring 19 which biases sleeve 17 to cam the balls 16 into the indentations 10. Set screw 24 holds a pilot drill 22. Japanese '712 lacks a connection with the hole saw consisting of the adapter having apertures for receipt of fasteners which extend through a backplate of a hole saw. Such a connection is common in the prior art. Figure 1 of Japanese '422 shows a flange 4A having holes for fasteners 5 which connect to the backplate 2a of a hole saw 2. It is considered to have been obvious to have provided the front portion of adapter 18 of Japanese '712 with the connection taught by Japanese '422 in order to hold hole saws having other common connection systems.

6. Claims 1-6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taiwan 483354 in view of Kanaan et al. Taiwan '364 shows hexagonal adapter 20 for hole saw 70, shank 46 with balls 43 to fit in groove 23 of the adapter, and sleeve 30 which cams the balls radially inward. Pilot drill 80 is held by the shank 46. The adapter has a threaded nose 21 to hold the saw. Taiwan '354 lacks an o-ring. Kanaan et al shows a shank/chuck 26 which connects to the drive spindle 46, a sleeve 20 which is moved to bias members 32 against a tool 16, and an o-ring 52 in an annular recess near the opening

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for keeping dust and contaminants out of the bore 14 (column 3, lines 35+). The elastic o-ring is inherently capable of damping vibrations. It is considered to have been obvious to have provided Taiwan '354 with an o-ring as shown by Kanaan et al in order to keep contaminants out of the shank 20.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over either of Nuss et al or Japanese '712 in view of Kanaan et al as applied to claim 1 above, and further in view of Jore (6176654). Changing the hole saw of Nuss et al and Japanese '712 can be awkward. One hand must be used to hold the sleeve in order to move it backwards, and another hand is needed to remove the adapter and replace it with another. This means that the drill body is awkwardly supported against one's torso or leg or whatever is available to stabilize it. Figures 4a-4b of Jore show a much simpler way to change the tool. Ball 36 fits into groove 34 of a bit, and sleeve 38 is reciprocated to place the ball in either the locked or unlocked position. The sleeve 38 has two annular grooves 46, 48, while shank 12 has a groove 40 for a resilient C-clip 44. Thus, the sleeve 38 is held in the unlocked position by the c-clip, which frees up one's hand in order to more easily change the tool. It is considered to have been obvious to have provided Nuss et al and Japanese '712 with the sleeve system as taught by Jore in order to more easily replace the tool in the holder.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nuss et al in view of Kanaan et al as applied to claim 11 above, and further in view of Bossler (4551045). Nuss et al lacks a bushing on the adapter. Figure 2 of Bossler shows an adapter 26 that is threaded on its front end for reception of a hole saw 21, just like adapter 18 of Nuss et al. Bossler shows a bushing 25 threadedly mounted on the adapter 26 for

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attaching a second hole saw 20 to the drill. Note that the hole saw 20 both centers saw 21 and has a smaller diameter threaded hole at 24. It is considered to have been obvious to have provided Nuss et al with a bushing as shown by Bossler either for the purpose of attaching either a centering drill to the device, or in order to attach a hole saw having a smaller threaded hole than what would otherwise mate with threads 78 of Nuss et al.

9. Claims 21, 22, 24, 26, 28, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 9, 10, 19, 32, and 33 are allowed.

11. Applicant's arguments filed 1-23-06 have been fully considered but they are not persuasive. It is noted that independent claims 1, 16, and 27 contain subject matter which was not previously claimed. New art has been applied to show that these features are obvious.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

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advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning the content of this communication from the examiner should be directed to Daniel Howell, whose telephone number is 571-272-4478. The examiner's office hours are typically about 10 am until 6:30 pm, Monday through Friday. The examiner's supervisor, Boyer Ashley, may be reached at 571-272-4502.

In order to reduce pendency and avoid potential delays, Group 3720 is encouraging FAXing of responses to Office actions directly into the Group at FAX number to 571-273-8300. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Daniel Howell of Art Unit 3722 at the top of your cover sheet.

A handwritten signature in black ink, appearing to read 'Howell', is positioned above the printed name.

Daniel W. Howell
Primary Examiner
Art Unit 3722